

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AMPEX CORPORATION,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 04-1373-KAJ
)	
EASTMAN KODAK COMPANY,)	REDACTED
ALTEK CORPORATION and CHINON)	
INDUSTRIES, INC.,)	
)	
Defendants.)	

DEFENDANTS EASTMAN KODAK COMPANY AND ALTEK CORPORATION'S
OPENING CLAIM CONSTRUCTION BRIEF

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Dated: May 31, 2006

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I. INTRODUCTION

Plaintiff Ampex Corporation asserts that Defendants Eastman Kodak Company and Altek Corporation infringe claims 7, 8, and 10-15 of U.S. Patent No. 4,821,121 (“121 patent”), which relates to electronic “still store” technology for use in television broadcasts.

Over the course of this litigation, Ampex has submitted at least six separate claim constructions – culminating with its March 24, 2006 “corrected” construction, nearly five months after this Court’s deadline for submitting constructions.¹ Ampex’s need to repeatedly revise its interpretation of a patent issued more than seventeen years ago conclusively demonstrates one critical proposition: Ampex is attempting to stretch the claimed invention well beyond its intended scope in order to cover a field – digital cameras – that is separate and distinct from the electronic still store technology described in the patent.

In so doing, Ampex defies basic and well-settled principles of claim construction: First, Ampex proposes claim constructions that often directly contradict the plain meaning of the claim terms. Second, Ampex’s constructions are unsupported by, and sometimes even conflict with, the specification. Third, Ampex selectively relies on portions of the prosecution history while disregarding other, later portions that do not support its theories. In fact, Ampex has even proposed that language not found in the claims, but rather only in the file history, be construed. Ampex’s only guiding principle appears to be the end result, even at one point unabashedly admitting to this Court that it revised its proposed construction to avoid the prior art Quantel Paint Box system. (*See Telephone Hrg. Tr. (3/14/06)*, at A-549 to

¹ Ampex has modified its proposed claim constructions at least six times: Ampex provided a preliminary claim construction statement on March 25, 2005 (“A. Constr. (3/05)”); a supplemental preliminary claim construction statement on May 9, 2005; a second supplemental preliminary claim construction statement on May 27, 2005; a construction accompanying direct witness testimony in the ITC on July 15, 2005 (“A. Constr. (7/05)”); an identification of claim construction issues on November 4, 2005 (“A. Constr. (11/05)”); and a corrected identification of claim construction issues on March 24, 2006 (“A. Constr. (3/06)”). Most recently, the parties prepared a joint claim chart, for filing with the Court on May 23, 2006. (“A. Constr. (5/06).”)

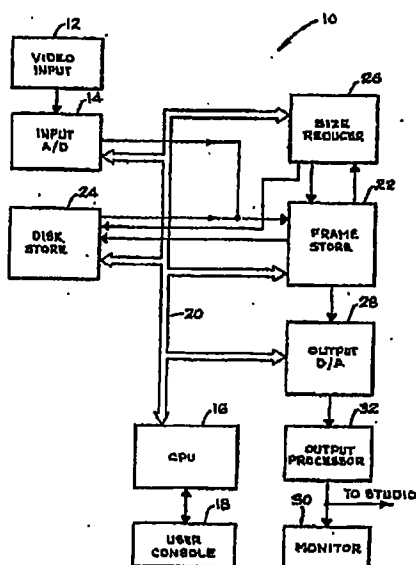
A-551.)² A claim construction that is constantly shifting to accommodate litigation-inspired tactics does violence to the public notice function of the claims.

II. BACKGROUND

A. Background of the Technology and the Claimed Invention

The claimed invention of the '121 patent "relates to a digital electronic still store for broadcast television signals and more particularly to a still store providing a high speed multiimage scan or sort capability." ('121 patent, 1:11-14, at A-16.) Still store systems are used in television production to store images to be inserted into a television broadcast. For example, television stations used still store systems to store and later display the image that appears over a news anchor's shoulder during a broadcast. (*Id.*, 1:23-26, at A-16.)

More particularly, the '121 patent describes a still store system that captures individual frames of a stream of video, stores the frames in their original form, permits the generation and storage of reduced size versions of the input images, and allows for the subsequent retrieval of either full or reduced size images for display. (*See id.*, 1:64-2:28, at A-16.) The sole figure from the patent is shown below:



² Citations to "A-____" refer to the Appendix to Defendants' Opening Claim Construction Brief.

As can be seen from the figure, the still store system described in the '121 patent includes the following principal components (all of which were known in the art): random access memory (frame store 22) for temporary storage of video images; a bulk or image store (disk store 24) for long term storage of video images; a size reducer (26), the details of which are not disclosed, for generating reduced size versions of the video images input into the system; and a processor (CPU 16) for controlling the still store system. (*See id.*, 1:64-2:28, at A-16.)

The '121 patent describes the size reducer as optional: "The system *may* further include an image size reducer coupled to produce a quarter size reduced spatial resolution image" (*Id.*, 2:17-25, at A-16 (emphasis added).) The size reducer "may be employed to generate" reduced size images at the user's option. (*Id.*, 4:7-12, at A-17.) As a result, there is not necessarily a corresponding reduced size image on disk for every full size image stored on disk. (*See id.*, 4:12-15, at A-17.)

B. The Prosecution History of the '121 Patent

The original application that led to the '121 patent was filed on April 8, 1983. Over the course of six years, the Patent Office several times rejected Ampex's proposed claims as indefinite; as obvious based solely on an article by Hugh Boyd describing the Quantel DLS6000 electronic still store; and as anticipated by U.S. Patent No. 4,302,776, a Quantel patent naming Richard Taylor as the inventor. (*E.g.*, '121 file history, at A-53 to A-57, A-68 to A-69, A-166 to A-172, A-198 to A-201.) In response to these rejections, Ampex amended and abandoned pending claims and filed two continuation applications as it attempted to overcome the indefiniteness and prior art problems. (*E.g.*, *id.* at A-98 to A-110, A-118 to A-133, A-144 to A-165.) Ultimately, in 1988, the examiner further amended some of the claims before allowing the fifteen claims in the '121 patent to issue. (*Id.* at A-220 to A-224.)

The '121 patent issued on April 11, 1989. It expired on April 11, 2006.

III. GENERAL CLAIM CONSTRUCTION PRINCIPLES

In its *en banc* decision in *Phillips v. AWH Corporation*, the Federal Circuit reiterated that “[i]t is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (citation omitted). The Federal Circuit reaffirmed that courts should focus on the intrinsic evidence – consisting of the claim language, the specification, and, if in evidence, the prosecution history – when performing claim construction. *Id.* at 1312-17.

As *Phillips* explained, “the claims themselves provide substantial guidance as to the meaning of particular claim terms.” *Id.* at 1314. The ordinary meaning of a claim term “is the meaning that the term would have to a person of ordinary skill in the art in question *at the time of the invention, i.e.*, as of the effective filing date of the patent application.” *Id.* at 1313 (emphasis added). Moreover, “the context in which a term is used in the asserted claim” is useful for understanding the ordinary meaning of a claim term. *Id.* at 1314.

Claims “must be read in view of the specification, of which they are a part.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (*en banc*), *aff’d*, 517 U.S. 370 (1996). The specification is “highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Phillips*, 415 F.3d at 1315 (citation omitted). The claim construction that “stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998); *see also On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1340 (Fed. Cir. 2006) (“[T]he claims cannot be of broader scope than the invention that is set forth in the specification.”).

The prosecution history should also be considered in connection with claim construction. *Phillips*, 415 F.3d at 1317. However, it “often lacks the clarity of the specification and thus is less useful for claim construction purposes.” *Id.*

Finally, *Phillips* delineated the role of “extrinsic” evidence in claim construction. *Id.* “[W]hile extrinsic evidence can shed useful light on the relevant art, ... it is less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Id.* at 1317 (citation and internal quotation marks omitted).

IV. PROPOSED CLAIM CONSTRUCTION

A. Person of Ordinary Skill in the Art

The ‘121 patent is directed to electronic still stores for use in television broadcasts. (‘121 patent, 1:11-14, at A-16.) In the context of the ‘121 patent, a person of ordinary skill in the art would be an individual with a Bachelor’s degree in electrical engineering or computer science and a few years of work experience relating to image capture, storage, and display, or an equivalent combination of education and work experience. (Decl. of James Storer Filed in Support of Defendants’ Opening Claim Construction Brief (“Storer Decl.”), ¶¶ 36-38.)

B. Analysis of Disputed Claim Terms in the ‘121 Patent

1. “Video”

‘121 Term	Claim(s)	Defendants’ Proposal	Ampex’s Current Proposal
“video”	All claims	A series of related electronic images created for rapid display to allow the appearance of movement.	“Video image” means an electronic signal representation of visual information displayable in visual form on a monitor or other display device.

Each of the asserted claims uses the term “video” to modify other claim terms. For example, claims 7, 8, and 14 each recite an apparatus for storing “video pixel data” representing “video images.” Claim 10 recites a system for storing “video data” representing “video images.” Claims 11, 13, and 15 recite methods for storing “video pixel data.” Claim 12 recites a “video still store system” and a “video display.”

a. Defendants’ Proposed Construction

Defendants' proposed construction for the term "video" – a series of related electronic images created for rapid display to allow the appearance of movement, such as television – gives meaning to the term "video" as it is used in the claim language and is consistent with the teachings of the specification.

The '121 patent describes a "still store" system that captures, stores, and displays images from an incoming television signal. The specification unambiguously begins: "This invention relates to a digital electronic still store for *broadcast television signals*" ('121 patent, 1:11-12, at A-16 (emphasis added); *see also id.*, 1:15-34, 2:48-51, at A-16.) The specification then describes how still store systems are used with television images – e.g., "to insert a selected still store image depicting a news event in the upper left hand corner of a live studio image depicting a newscaster describing the news event." (*Id.*, 1:23-26, at A-16.)

In describing the claimed still store system, the '121 patent repeatedly uses the term "video" to refer to the picture portion of a television signal. (*See, e.g., id.*, 1:44-47, at A-16 (referring to a prior art reference that involves positioning "video" images on a television display).) The sole embodiment disclosed in the specification consistently equates conventional "video" signals with standard television signals: it explains that the video input circuit may be a TV camera (*id.*, 2:65-3:1, at A-16 to A-17); that an NTSC (a standard television format) frame of data is comprised of "video" data (*id.*, 3:57-58, at A-17); and that the output processor is a "conventional video signal output processor, for forming a television signal in a standard format" (*id.*, 4:34-36, at A-17).

In 1983 (the time of filing), still store systems were used in the television broadcast industry to "capture" and store individual frames of television images, and "video" was understood to refer to television broadcast signals. (Storer Decl., ¶¶ 47-48; *see Broadcast Communications Dict.* (1978), at A-33 (defining "video" as the "picture portion of television broadcast"); *Webster's Third New Int'l Dict.* (1981), at A-6 (defining "video" as "relating to

or used in the transmission or reception of the television image”).) Consistent with this usage, the specification of the ‘121 patent indicates that the “video” input to the still store system must originate from a moving picture (as opposed to from a still representation).³ It states: “[V]ideo input circuit 12 may be another electronic still store system, a TV camera, or some other source of *video data from which one or more frames of a video image may be captured.*” (‘121 patent, 2:65-3:1, at A-16 to A-17 (emphases added).) The “capture” of a frame of a video image entails singling out one of the multiple frames input into the system. (Storer Decl., ¶ 49.) A person skilled in the art would understand from this context that “video,” as used in the ‘121 patent, entails the electronic transmission and rapid display of related electronic images to provide the illusion of movement to the viewer. (*Id.* ¶ 46.)

The extrinsic evidence lends further support to Defendants’ proposed construction. In the 1980s, the term “video” was conventionally used – both by persons of ordinary skill in the art and by the general public – to refer to moving, as opposed to individual still, images. (*E.g., Fans Videotaped in Syracuse Dome*, N.Y. TIMES (1984), at A-11 (“We’ve taken both video and still pictures ever since the Dome was opened.”).)

Redacted

At the time of the alleged invention of the ‘121 patent, the word “video” was also commonly understood to describe television signals.

Redacted

³ Also, claim 7 refers to a “succession” of images, which connotes a series of individual frames of a video image, as in a television signal having 30 frames a second. (Storer Decl., ¶ 47.)

Redacted

b. Ampex's Proposed Construction

Ampex has proposed several definitions for the term “video” during the course of this litigation, all of which are significantly broader than warranted by the ‘121 patent’s usage of that term.⁴ Most recently, Ampex has proposed that a “video image” is “an electronic signal representation of visual information displayable in visual form on a monitor or other display device.” (A. Constr. (5/06), at 3.) The breadth of Ampex’s proposed construction is not supported by the intrinsic evidence.

First, Ampex’s proposed construction for “video” would improperly read the term out of the claims. The claims’ recitation of “video images” demonstrates that the patentee intended to use “video” to modify “images” and that not all “images” are “video images.” Under Ampex’s proposed construction, however, *any* electronic image would be a “video image.” In fact, Ampex’s self-described “video expert” testified that “video” includes “*any* images that are displayable.” (*See* Cavallerano Dep., at A-606 to A-607 (emphasis added).) The claims’ recitation of “video pixel data” similarly demonstrates that the patentee intended to use “video” to modify “pixel data.” But under Ampex’s proposed construction, there would be no difference between “pixel data” and “video pixel data,” as all electronic images contain pixel data. Ampex’s proposed construction, therefore, would render the term “video”

⁴ Ampex initially construed “video” as follows: “A video image is a signal representation of visual information.” (A. Constr. (3/05), at A-318.) Ampex later contended, “A video image is: (i) an electronic signal representation of visual information, generated by electronically sensing a two-dimensional portion of an optical image; or (iii) [sic] an image electronically displayed using that electronic signal.” (A. Constr. (7/05), at A-460.)

meaningless. *See Phillips*, 415 F.3d at 1314 (explaining that the claim term “‘steel baffles’... strongly implies that the term ‘baffles’ does not inherently mean objects made of steel”).

Second, the breadth of Ampex’s proposed construction would lead to absurd results. Under Ampex’s construction, *any* displayable electronic image – an electronic fax transmission or the signal information in a photocopy machine – would be a “video image.”

(Storer Decl., ¶ 52) **Redacted** Such a broad definition is entirely unsupported by the specification of the ‘121 patent. Indeed, such a construction ignores the very context of the claimed invention: a “still store” system for capturing, storing, and displaying individual frames of television images.

2. “Data”

‘121 Term	Claim(s)	Defendants’ Proposal	Ampex’s Proposal
“data”	All claims	Numerical information.	Information, in any form, representing a video image.

a. Defendants’ Proposed Construction

The ‘121 patent uses the term “data,” in accordance with its plain meaning, to refer to numerical information. (*See* Storer Decl. ¶ 55; *see also* Am. Heritage Dict. (1982), at A-9 (defining “data” as “numerical information in a form suitable for processing by computer”).) The specification describes “data” from the analog-to-digital converter, for example, as “represented by three eight bit data bytes.” (‘121 patent, 3:19-24, at A-17.)

b. Ampex’s Proposed Construction

Ampex’s proposed construction, which would allow “data” to include information “in any form” (A. Constr. (5/06), at 7-8), is overly broad. Nothing in the claims or the specification suggests that “data” can be anything other than numerical information.

Redacted

3. “Said”/ “The” Video Pixel Data

‘121 Terms	Claim(s)	Defendants’ Proposal	Ampex’s Current Proposal
Said video pixel data; the video pixel data; the full size image; said full size image; the data sets	All claims	<p>“Said” or “the” refers to the data that is first referenced in the claims.</p> <p>For example, the data in the random access memory, the data in the first store, the data supplied by an external source, or the data sets provided at a first resolution.</p> <p>This “said video pixel data” is the same data used to generate a reduced size image.</p>	Said video pixel data; the video pixel data; the video data; said image data sets and the data sets mean data (or data sets) representing the same image as the antecedent data (or data sets).

Each asserted claim refers to “data” multiple times. For example, claims 7, 8, and 14 introduce “video pixel data” and then refer throughout those same claims to “said video pixel data” and “the video pixel data.” In similar fashion, the other asserted claims refer to “the video data,” “said full size image data sets,” and “the data sets.”

a. Defendants’ Proposed Construction

It is a straightforward matter of claim construction that definite articles such as “the” and “said” are used to refer back to elements previously identified in a claim. *See, e.g., Process Control Corp. v. Hydrex Corp.*, 190 F.3d 1350, 1356-57 (Fed. Cir. 1999) (“the discharge rate” means the *same* rate mentioned several lines previously); *see also* PLI, *Landis on Mechanics of Patent Claim Drafting*, §§ 3.3, 3.11 (2005), at A-293 to A-302. In the context of the asserted claims, “the ... data” or “said ... data” refers back to the *same* data first referenced in each claim: the data in the random access memory (claims 7, 8, and 11); the data in the first store (claim 10); the data supplied by an external source (claim 12); or the data sets provided at a first resolution (claims 13-15). As an example, claim 7 recites “random access memory means for storing *video pixel data*” and then “bulk memory means for receiving *said video pixel data* from said random access memory means.” (‘121 patent, 6:27-33, at A-18 (emphases added).) Thus, the data received in the bulk memory means is the *same* data that was stored in the random access memory means.

The file history unambiguously confirms this meaning. In an office action, the examiner suggested use of “the” and “said” to precede terms previously identified in order to show that the later reference was to the same element. (‘121 file history, at A-94 (“Also, ‘the’ or ‘said’ should precede a term when antecedence has been provided.”).) Accordingly, in subsequent papers, Ampex amended certain claims to add “said” and “the” before previously mentioned elements. (*E.g.*, *id.* at A-169, A-190.) In claim 7 (pending claim 18), for instance, Ampex specifically added “said” prior to “video pixel data” to clarify that the later term referred back to the *same* video pixel data previously recited. (*See id.* at A-180.)

In addition to comporting with the mechanics of claim construction, Defendants’ proposed construction for “said ... data” makes sense in the context of the claimed invention. As explained above, the ‘121 patent describes a still store system that captures, stores, and displays frames of moving (e.g., television) images. The claimed system does not transform the captured images (it only permits the generation of a reduced size version of captured images); on the contrary, it stores and displays the *same* data (and in some cases data for a reduced size version) that it captured from the incoming television signal. A user of a still store system would expect that the data stored in the still store and then output for broadcast as a television signal would be the same as the data input into the system, so that, for example, a news broadcast would always show the same image. (Storer Decl., ¶ 64.)

b. Ampex’s Proposed Construction

On the surface, Ampex appears to agree that the definite articles “the” and “said” are used in the asserted claims to refer back to antecedent claim terms. But upon closer inspection, it becomes clear that Ampex does not interpret “the...data” or “said...data” to refer to the same *data* that was previously recited in each claim. Instead, Ampex proposes that “the...data” and “said...data” mean only “data...*representing the same image as the antecedent data.*” (A. Constr. (5/06), at 9 (emphasis added).) Put differently, according to

Ampex, the data need not be the same as long as the same image is represented. (*See A. Constr.* (7/05), at A-471 (“Subsequent to its initial generation, video pixel data representing a video image may be further processed or transformed...and as such is still properly characterized as the video pixel data representing the video image.”).)

Redacted

Ampex’s construction is nothing more than an attempt to broaden the very basic still store system described and claimed in the ‘121 patent to encompass the intricate image processing that takes place in the accused digital cameras.

As an initial matter, Ampex’s proposed construction finds no support in the ‘121 patent. The ‘121 patent does not describe or even suggest any of the digital data processing that Ampex asserts can occur *after* an image’s initial capture and storage in random access memory (i.e., signal conversion, image enhancement, or data compression). Rather, the “full size” video pixel data that is input into the claimed still store system is not described as being altered or transformed in any way *after* it is captured, converted to digital format, and stored in random access memory (other than its conversion back to analog for television broadcast). The only digital manipulation the patent describes as occurring *after* the initial capture and storage in the random access memory is the generation of a separate reduced size image, while leaving the original full size image unchanged. The full size and reduced size images, once generated, are not manipulated. The resolution and pixel values of the captured “full size” video pixel data do not change; thus it is proper to characterize the data as the same “full size” video pixel data in random access memory, bulk store, and the size reducer.

The only processing that the ‘121 patent does mention is the analog-to-digital conversion of the incoming television signal, but that conversion occurs *before* an image is captured or stored in random access memory. (*See* ‘121 patent, 3:12-54, at A-17.) **Redacted**

Redacted

Consequently, such processing cannot change the data between random access memory and bulk storage in the still store system.

A person of ordinary skill in the art would not understand processed data – whose numerical pixel values have changed – to be the *same* as unprocessed data. (Storer Decl., ¶ 63.) On the contrary, a person of ordinary skill in the art would understand that processed image data is *necessarily different* because the numbers that make up the data have changed. After all, the purpose of processing is to alter the numerical values.

Redacted

Moreover, visual “enhancement” processing results in an image that is visually different from the image represented by the unprocessed data. In short, when data is processed, it can no longer be the *same* data as required by the claims. (*See id.*)⁵

4. “Direct Transfer”

‘121 Term(s)	Claim(s)	Defendants’ Proposal	Ampex’s Current Proposal
“direct transfer”; “directly receiving”; “providing ... directly”	7, 8, 10	The transfer of data without intervening circuitry.	The transfer path is not circuitous or roundabout, and the transferred data is not significantly processed after it has left the providing or sending structure and before it has reached the receiving structure.

Three of the asserted claims use the word “direct” or “directly” to characterize the way in which data is transferred between storage devices identified in the claims. As an example, claim 8 requires the transfer of images “from said bulk storage memory directly into said random access memory means.”

⁵ In addition, Ampex’s proposed construction for “the ... data” and “said ... data” would render the asserted claims of the ‘121 patent indefinite under 35 U.S.C. § 112, ¶ 2.

Redacted

a. Defendants' Proposed Construction

In the asserted claims of the '121 patent, the "direct transfer" limitations mean precisely what they say: the transfer of image data between storage devices (or between the random access memory and the size reducer) must occur "directly," or without interruption or intervening circuitry.

Redacted

Consistent with this plain meaning, the one figure included in the patent depicts two uninterrupted lines between the bulk store (disk store 24) and the random access memory (frame store 22). (*See* '121 patent, figure, at A-15.) These lines connect the bulk store and the random access memory blocks directly, without passing through the CPU or any other circuitry that would permit processing. Similarly, the random access memory (frame store 22) and the size reducer (26) are connected by two direct lines, without passing through any other circuitry. (*See id.*) A "direct transfer" thus requires the transfer of data without interruption or intervening circuitry. (Storer Decl., ¶¶ 66-71.)

The file history confirms this. When Ampex added the words "direct" and "directly" to the claims to overcome a prior art rejection, Ampex explicitly defined "directly" to mean "with no other circuit therebetween." Specifically, Ampex stated that the bulk memory means transferred images "*directly* back to the random access memory means, *with no other circuit therebetween.*" ('121 file history, at A-212 to A-213 (emphases added).) This statement by the patentee, which was made to obtain allowance of the patent, unambiguously defines the word "directly" in the '121 patent to require the transfer of data without any intervening circuitry. *See Honeywell Inc. v. Victor Co. of Japan, Ltd.*, 298 F.3d 1317, 1323 (Fed. Cir. 2002) (patentee may define claim term in prosecution history).

b. Ampex's Proposed Construction

In its current construction, Ampex argues that the “direct transfer” required by claims 7, 8, and 10 of the ‘121 patent means that the transfer path is “not circuitous or roundabout, and the transferred data is not significantly processed *after* it has left the providing or sending structure and before it has reached the receiving structure.” (A. Constr. (5/06), at 27.) This is a departure from Ampex’s earlier definition, which was essentially “not via a size reducer.” (A. Constr. (7/05), at A-476.) Still, nothing in the patent or prosecution history explains what Ampex might mean by “not circuitous or roundabout” or “not significantly processed,” or how one of ordinary skill in the art would determine what constitutes “significant processing.”

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sum, neither of Ampex’s proposed constructions for the “direct transfer” limitations finds support in the claims or the specification, and both are inconsistent with Ampex’s unambiguous statement in the prosecution history.

5. “An Input Port and an Output Port”

‘121 Term(s)	Claim(s)	Defendants’ Proposal	Ampex’s Current Proposal
“random access memory means having <i>an input port and an output port</i> ”	8, 14	Random access memory with an input port and a separate output port.	<p>A “port” is an interface between a communications channel and a unit of computer hardware.</p> <p>An “input port” is a port for inputting data into the claimed random access memory.</p> <p>An “output port” is a port for outputting data from the claimed random access memory.</p>

Claims 8 and 14 both recite random access memory means having “an input port and an output port.” The parties dispute whether these claims require random access memory with an input port and a separate output port, or whether the random access memory may have a single input/output port. For the reasons stated below, claims 8 and 14 can only be read to require random access memory with two separate ports.

a. Defendants’ Proposed Construction

The claim language, which recites “*an input port and an output port*,” plainly identifies and requires two separate ports. Consistent with this claim language, the one figure included in the patent depicts the random access memory (frame store 22) as having separate input and output ports. This can be seen from the separate one-way arrows going into and out of the frame store (as opposed to a single two-way arrow, like the one shown between CPU 16 and user console 18). (‘121 patent, figure, at A-15.)

That Defendants’ proposed construction is correct is further illustrated by use of the phrase “random access memory” in other claims. The first element of claim 7, for instance, describes “random access memory” without further modifiers. Because all random access memory must have input and output capability, this random access memory in claim 7 must have at least a single port with input/output capability. (See Cavallerano Dep., at A-613 to A-615.) In contrast, claims 8 and 14 specifically recite random access memory with “an input port and an output port.” This difference in claim language indicates that the “random access memory with an input port and an output port” in claims 8 and 14 is not the same as the “random access memory” in claim 7. See *Phillips*, 415 F.3d at 1314 (“Differences among claims can also be a useful guide in understanding the meaning of particular claim terms.”).

b. Ampex’s Proposed Construction

Ampex appears to propose a construction that would allow for the claimed random access memory to have a single input/output port. (See A. Constr. (5/06), at 42.) However, *all* random access memory must be accessible and, to be accessible, must have a port and must be able to input and output data. (Storer Decl., ¶ 74; Cavallerano Dep., at A-617.) Thus, if claims 8 and 14 were read to encompass a system with a single-port random access memory, as Ampex apparently contends, then the claim language “having an input port and an output port” would be redundant to the phrase “random access memory.” (See Cavallerano Dep., at A-616 to A-617 (“Q: So what does the addition of the words an input

port and an output port add to the meaning of the first element of claim 8? A: As I've said, it doesn't have any particular significance to me.".) This would make the added claim language in claims 8 and 14 meaningless. *See Gen. Am. Transp. Corp. v. Cryo-Trans, Inc.*, 93 F.3d 766, 770 (Fed. Cir. 1996) (rejecting construction that rendered claim requirement redundant).

6. "External Source"

'121 Term(s)	Claim(s)	Defendants' Proposal	Ampex's Proposal
"an <i>external source</i> for supplying a plurality of full size image data sets representative of corresponding full size images"	12	A source located outside of and at a separate physical location from the physical location of the other components of the video still store system.	A source of video images outside of the image store.

Claim 12 recites "an external source for supplying a plurality of full size image data sets representative of corresponding full size images." The parties dispute what the source must be external to: the rest of the video still store system, or just the image store.

a. Defendants' Proposed Construction

The "external source" limitation should be construed to require a source located outside of and at a separate physical location from the physical location of the other components that make up the video still store system. Like an "external mouse" for a laptop computer is external to the rest of the laptop computer (and not just the hard disk or any one component of the laptop), an "external source" for a video still store system must be external to the other components of that system (and not just the image store or any other single component of the system).

Only by defining "external source" to be a source located outside of the device that is otherwise described in claim 12 does the phrase have an understandable and logical meaning. First, the plain meaning of "external source" denotes a source located outside of (i.e., "external to") the other components of the video still store system identified in the claim.

Second, as used in the claim, “external source” modifies the “video still store system” of the preamble, meaning that the source must be external to the components that make up the video still store system. Third, the specification describes a “source” – e.g., another electronic still store system – that is external to and at a physical location separate from the other components of the still store system. (*See* ‘121 patent, 2:65-3:1, at A-16 to A-17 (“The video input circuit 12 may be another electronic still store system, a TV camera, or some other source of video data from which one or more frames of a video image may be captured.”).)

b. Ampex’s Proposed Construction

Ampex contends that the “external source” recited in claim 12 can be inside the video still store system and need only be external to the image store. (*See* A. Constr. (5/06), at 43.) Ampex’s proposed construction is deficient on multiple fronts.

First, because the “external source” of image data (the first element) is a separate element in the claim from the “image store” (the second element), one of ordinary skill would know, even without the word “external,” that this “source” of data is something other than the image store. Ampex’s proposed construction – that the source need only be external to the image store – therefore, reads “external” out of the claim.

Second, Ampex’s proposed construction is entirely arbitrary: it singles out one component of the still store system that the source must be external to, without any guidance from the claim language or the specification. (That is like saying that the “external mouse” in the laptop example must be outside of the hard disk, but need not be separate from any other component of the laptop.)

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See Voice Tech. Group, Inc. v. VMC Sys., Inc., 164

F.3d 605, 615 (Fed. Cir. 1999) (“An inventor is a competent witness to explain the invention and what was intended to be conveyed by the specification and covered by the claims.”).

In effect, Ampex’s proposed claim construction is simply an attempt to stretch the “external source” limitation to cover the precise opposite: a source of image data that is *inside* the system.

Redacted**7. “Selective”; “Selectively”**

‘121 Term(s)	Claim(s)	Defendants’ Proposal	Ampex’s Proposal
“selectively generating”; “selective transfer”; “selectively transferring”	7, 8, 10, 11, 13- 15	There is the ability to choose (i.e., select). “Selectively generating” means there is the ability to choose (i.e., select) whether to generate reduced size images. “Selective transfer” means there is the ability to choose (i.e., select) whether to transfer reduced size images from the size reducer through random access memory to bulk storage.	“Selective” means characterized by selection. “Select” means chosen in preference to another or others. “Selectively generating” means that, without the operator orchestrating each step, the claimed means automatically determines whether to generate a reduced size version and generates it in those cases. “Selective transfer” means that, without the operator orchestrating each step, the claimed means automatically determines whether to generate a reduced size version, generates it in those cases, and transfers the reduced size image so generated to random access memory.

Several of the asserted claims include the word “selective” or “selectively” to modify the generation of reduced size images or the transfer of data.

a. Defendants’ Proposed Construction

The plain meaning of the word “select” is to choose. (*E.g.*, Am. Heritage Dict. (1982), at A-10 (defining “select” as “to make a choice or selection; choose”).) The use of “selective” and “selectively” in the asserted claims comports with this plain meaning. Claim 8 describes a “selective transfer” of either a full size image or a reduced size image from bulk

storage to random access memory. Claim 10 recites “selectively” transferring either a full size image or multiple reduced size images from one storage location to another. Claims 11 and 14 require “selectively” transferring either a full size image or a reduced size image from bulk storage to random access memory. Claim 14 also requires the “selective transfer” of a reduced size image from a size reducer to bulk storage via the random access memory.

Each of these limitations allows for a choice: whether to transfer a full size image or a reduced size image (claims 8, 11, and 14); whether to transfer a full size image or multiple reduced size images (claim 10); and whether or not to transfer the reduced size image (claim 14). In each instance, by definition, the transfer is not automatic. Instead, it is the product of choice. Ampex has acknowledged that “selective transfer” and “selectively transferring” in claims 8, 10, 11, and 14 refer to a choice. (*See* A. Constr. (3/05), at A-331, A-338; A. Constr. (5/06), at 16.)

Similarly, claim 7 contains the requirement of “selectively generating” reduced size images. The term “selectively generating” means that there is an element of choice in whether or not to generate a reduced size image. (Storer Decl., ¶ 81.) This construction is supported by the specification, which explains:

[W]hen video data received from disk store 24 does not contain a corresponding quarter spatial resolution copy, size reducer 26 *may* be employed to generate a quarter spatial resolution copy for subsequent transfer to either frame store 22 or disk store 24. Hence, any time frame store 22 receives a video image frame that does not have a corresponding quarter resolution copy, the size reducer 26 *may* be used to make such a copy.

(‘121 patent, 4:7-15, at A-17 (emphases added).) This passage makes explicit that the size reducer *may* – not must – be used to generate reduced size images. That is confirmed by the fact that, as described in this passage, there can be a full size image on disk without an associated reduced size version. If the operator had no choice with respect to the generation of reduced size images – that is, if reduced size images were non-selectively generated and

stored on disk each time a full size image was input into the system – there could be no full size images on disk without their associated reduced size images.

Other portions of the specification consistently use the term “selectively” to denote choice. For example, when describing the prior art ‘264 patent, the specification explains that “joysticks may be used to *selectively* position video images on a television display.” (*Id.*, 1:46-47, at A-16 (emphasis added).) There is no dispute that the system described in the ‘264 patent does not *automatically* position video images.

b. Ampex’s Proposed Construction

Ampex’s proposed construction – that “selective” means “characterized by selection” (A. Constr. (5/06), at 14) – is circular and meaningless. In effect, Ampex contends (contrary to the plain meaning of the claim language) that “selectively” means automatically. Ampex argues that “selectively generating” in claim 7 means that “the claimed means automatically determines whether to generate a reduced size version and generates it in those cases.” (A. Constr. (5/06), at 31.) Ampex also suggests that “selective transfer” in claim 14 means that the claimed means “automatically determines whether to generate a reduced size version and generates it in those cases, and ... transfers the reduced size image so generated to random access memory.” (*Id.*)⁶

Ampex’s proposed construction of “selectively” to mean “automatic” ignores the intrinsic evidence altogether. First, the term “automatically” does not appear in *any* of the asserted claims and it never appears in the specification. Second, as described above, Ampex’s construction directly contradicts the specification of the ‘121 patent, which makes clear that the system “may” generate a reduced size copy when none exists, but does not have

⁶ Ampex also contends that claims 7, 10, 12, 13, and 15, “taking each claim as a whole, require that when the applicable mode of operation is commanded, selected or activated, the plurality of reduced size images are automatically output, transferred, accessed or retrieved.” (A. Constr. (5/06), at 22.) Ampex further contends that “providing,” “generating,” and “storing” in claims 13 and 15 must be performed automatically, without the user orchestrating each step. (*Id.* at 41.) Ampex’s attempt to read “automatic” into the claims is improper for the reasons discussed above.

to do so. ('121 patent, 4:7-12, at A-17 (“[W]hen video data received from disk store 24 does not contain a corresponding quarter spatial resolution copy, size reducer 26 *may* be employed to generate a quarter spatial resolution copy for subsequent transfer to either frame store 22 or disk store 24.” (emphasis added))).)

Ampex’s construction is also inconsistent with the file history. In 1987, Ampex proposed several new claims (including pending claim 18, which became claim 7), arguing that they should be allowable “because they teach storing a reduced image with the full size image each time a full sized image is to be stored from the frame buffer to the disk.” ('121 file history, at A-163.) In April 1988, however, following a rejection by the examiner, Ampex amended claim 7 (pending claim 18) as follows:

18. (amended) An apparatus for storing video pixel data ... comprising: ... means for selectively generating one of said corresponding reduced size versions [image] from the respective [any said] full size image in said random access memory means, [to be transferred to said memory means] and for transferring [storing] the video pixel data representing said reduced size image to [in said random access memory means prior to storage of] the contents of said memory means via said random access memory means [in said memory means].

(*Id.* at A-179 to A-180 (alterations in original, brackets show deletions and underlining shows additions).) With this amendment, Ampex specifically changed claim 7 to require the *selective* generation of reduced size images. (*Id.*) Thus, any arguments about the automatic or selective generation of reduced size images made by Ampex in earlier submissions were rendered moot by the subsequent amendment to the claim.

8. **“Selectively Accessing...and ... Simultaneously”**

'121 Term(s)	Claim(s)	Defendants' Proposal	Ampex's Current Proposal
"selectively accessing ... and ... simultaneously"	13, 15	There is the ability to choose (i.e., select) any one of the full images and any one of the reduced size images and access both at the same time.	The system performing the claimed method determines whether to access from the storage locations in bulk memory a full size image, and whether to access from the storage locations in bulk memory a plurality of reduced size images simultaneously, and then access those images.

Claims 10 and 12 require a "store" that can "simultaneously" store a full size image and a reduced size version. Claims 13 and 15 require "selectively accessing" from the storage locations a full size image and reduced size image "simultaneously."

Although Ampex initially argued that "simultaneously" meant different things in different claims, Ampex now appears to agree that "simultaneously" has the same meaning in claims 10, 12, 13, and 15, and that in each instance "simultaneously" means "at the same time." (A. Constr. (5/06), at 44-45.) The parties agree that the phrase "selectively accessing ... simultaneously" as used in both claim 13 and claim 15 has the same meaning. What remains in dispute, however, is how the inclusion of the term "simultaneously" in claims 13 and 15 affects the meaning of the limitations in those claims.

a. Defendants' Proposed Construction

Claim 13 recites "selectively accessing from the storage locations a data set representing *one* of the plurality of full size images, and a data set representing *one* of the corresponding plurality of the reduced size reproduction images, simultaneously." ('121 patent, 8:60-64, at A-19 (emphases added).) Claim 15 requires "selectively accessing from the storage locations a data set of *one* of the plurality of full size images, and *one* of the sets of the corresponding plurality of the reduced size reproduction images simultaneously." (*Id.*, 10:23-26, at A-20 (emphases added).)

The plain language of claims 13 and 15 allows for only one meaning: accessing "one" full size image and "one" reduced size image at the same time. The language refers to only

two images, a full size image and a reduced size image. Thus, “simultaneously” must refer to those two images. In other words, “simultaneously” modifies “selectively accessing.” Defendants construe “selectively” in claims 13 and 15 as having the same meaning as “selectively” when used in the other claims of the patent. As discussed above, “selectively” means the ability to choose. Coupled with “and...simultaneously,” the phrase used in claims 13 and 15 means there is the ability to choose (i.e., select) any one of the full size images and any one of the reduced size images and to access both at the same time.

b. Ampex’s Proposed Construction

Initially, Ampex contended that this language of claims 13 and 15 meant as follows: “[S]electively’ in the context of this claim element refers to the ability to select for access either the data for a full size image, *or* the data for a plurality of reduced size images. (As stated below, ‘and’ means that both selections must be performed by the method, but not necessarily at the same time.)” (A. Constr. (7/05), at A-505 (emphasis added); *see also id.* at A-515.) Recognizing the implausibility of its initial construction, which required “or” and “and” to mean the same thing, Ampex revised its construction. Ampex now argues that claims 13 and 15 require the system to determine whether to access a full size image *and* whether to access “a plurality of reduced size images simultaneously.” (A. Constr. (5/06), at 46.) Ampex’s new construction is no better.

First, Ampex’s new construction is inconsistent with the plain language of the claims. On their face, the claims require the simultaneous access of “*one*” full size image “*and*” “*one*” reduced size image. (‘121 patent, 8:60-64, at A-19; *id.*, 10:23-26, at A-20.) Ampex’s construction, however, interprets the claims to mean the access of *one* full size image *or multiple* reduced size images. (*See* A. Constr. (5/06), at 46;

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In other words, according to Ampex, the plain meaning of the claim should be ignored. As in its prior construction, though it uses different language, Ampex seeks to construe “and” as “or” and “one” as “multiple.” The rules of claim construction do not permit such manipulation.

Second, Ampex’s proposed construction attempts to undo amendments the examiner made to the claims as a condition of allowance. In November 1988, the examiner amended claim 13 (pending claim 29) to read as follows:

selectively accessing from the storage locations a [one of the] data set[s] representing *one* of the plurality of full size images and a data set representing *one* [or the set] of the corresponding plurality of the reduced size reproduction images, simultaneously.

(‘121 file history, at A-205 to A-206, A-222 to A-223 (emphases added, alterations in original, brackets show deletions and underlining shows additions).) The examiner explicitly added the term “and” in place of “or,” confirming that one full *and* one reduced size image must be accessed simultaneously. The examiner also added the phrase “and a data set representing *one*,” clarifying that *one* reduced size image – not many – is accessed. The examiner further added a comma before “simultaneously,” clarifying that “simultaneously” modifies the verb “accessing.” (*See id.* at A-206.) The examiner made similar changes to claim 15 (pending claim 31). (*See id.* at A-208, A-223.)

Despite thanking the examiner for the amendments (*id.* at A-233), Ampex now tries to undo them.

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The patentee, however, “is only entitled to protection of the claims as issued, not as filed.” *Schoenhaus v. Genesco, Inc.*, 440 F.3d 1354, 1359 (Fed. Cir. 2006).

9. “Either...Or”

'121 Term	Claim(s)	Defendants' Proposal	Ampex's Current Proposal
"either ... or"	7, 8, 10-12, 14	One or the other, but not both.	<p>Claims 7, 10, 12: The "outputting," "transferring," or "supplying" is of either a full size image or, alternatively, a plurality of reduced size images.</p> <p>Claims 8, 11, 14: The "transfer" is of either a full size image or, alternatively, one or more reduced size images.</p>

Claims 7, 10, and 12 require that "either" a full size image "or" multiple reduced size images be output. Claims 8, 11, and 14 require that "either" a full size image "or" one reduced size image be transferred from one storage location to another.

a. Defendants' Proposed Construction

A plain reading of claims 7, 10, and 12 requires that either a full size image be output, or that multiple reduced size images be output, but not both. (*E.g.*, '121 patent, 6:36-40, at A-18 (claim 7 recites "either a selected one of the successive full size images or selected ones of the corresponding reduced size versions thereof"); *see also id.*, 7:60-64, at A-19 (claim 10); *id.*, 8:43-45, at A-19 (claim 12).) Similarly, a plain reading of claims 8, 11, and 14 requires that either one full size image be transferred, or that one reduced size image be transferred, but not both. (*E.g.*, *id.*, 8:11-14, at A-19 (claim 11 recites "either the full size image or the reduced size image"); *see also id.*, 7:18-20, at A-19 (claim 8); *id.*, 9:34-10:2, at A-20 (claim 14).)

In each instance, a selection must be made between the two alternatives, to the exclusion of performing both. "Either...or" is not a technical phrase, and there is nothing in the '121 patent to indicate that "either...or" should take on a meaning other than its ordinary meaning. Quite simply, "either...or" is meant to be read as disjunctive and does not permit both recited alternatives. *See Kustom Signals, Inc. v. Applied Concepts, Inc.*, 264 F.3d 1326, 1331 (Fed. Cir. 2001) ("or" should be construed to refer to alternatives, unless patentee clearly explains contrary meaning).

b. Ampex's Proposed Construction

It appears from Ampex's most recent claim construction statement that Ampex agrees with Defendants' proposed construction of "either...or" as meaning one or the other, but not both. (*See* A. Constr. (5/06), at 26.)⁷

10. "Full Size Image"

'121 Term(s)	Claim(s)	Defendants' Proposal	Ampex's Proposal
"full size image(s)"; "full size video image"; "video image normally"	7, 8, 11-15	An image that is the same size (resolution) as the television display and therefore occupies the full screen of the television display, but no more.	The larger of the two sizes of image required by the claim.

Claims 7, 8, and 11-15 use the phrase "full size image" or "full size images." These claims require image pixel data at a particular "full" resolution that can be used to generate reduced size image data, and also stored for later access.

a. Defendants' Proposed Construction

The plain meaning of the claim term "full size image" is an image that is the same size (resolution) as the television display and therefore occupies the full screen of the television display, but no more. (Storer Decl. ¶ 78.) The '121 patent's use of "full" is consistent with this plain meaning. In the "Summary of the Invention," the specification states that the still store system stores "full" video images for "full size video output." ('121 patent, 2:1-3, at A-16.) The specification also explains in detail that a "full" size image takes up all 484 lines of video data in a standard television frame of video data. (*Id.*, 3:55-68, at A-17 (explaining that a quarter resolution image would take up 30 lines of video data, which is one-sixteenth the space of a "full" size image).)

b. Ampex's Proposed Construction

Ampex proposes that "full" means the "larger of the two sizes of image required by the claim." (A. Constr. (5/06), at 18.) This construction, however, would make the claims'

⁷ One of Ampex's previously proposed constructions for the "either...or" limitation in claim 11 noted: "It is irrelevant, and not inconsistent with, this requirement if, when the full size image is transferred, a single reduced size image accompanies it, but is ignored and not processed." (A. Constr. (7/05), at A-499.) There is no support for such an interpretation of this claim; indeed, it is contrary to the plain meaning of "either...or." *See Kustom Signals*, 264 F.3d at 1331.

use of the word “full” meaningless. Under Ampex’s construction, a “full” size image could be of any arbitrary size and could occupy, for example, only a portion of the television display. The phrase “full size image at said first resolution” in claim 7 would therefore mean the same thing as the phrase “image at said first resolution,” because claim 7 otherwise requires the second resolution to be a reduced resolution.

11. “Corresponding”

‘121 Term(s)	Claim(s)	Defendants’ Proposal	Ampex’s Current Proposal
“corresponding”	7, 12, 13, 15	A “corresponding” reduced size image is one that relates to a full sized image in that it is a smaller (lower resolution) version of the full sized image.	Having a working relationship. The claims, each taken as a whole, require that a relationship be maintained between each full size image and the reduced size image generated from that full size image.

Several of the asserted claims use the word “corresponding” to describe the relationship between a full size image and a reduced size image.

a. Defendants’ Proposed Construction

Defendants’ proposed construction of the term “corresponding” is straightforward: a reduced size image that is generated from a full size image “corresponds” to that full size image because it is a smaller version of the full size image. No other relationship between the full size image and the reduced size image is described in any of the claims or in the specification of the ‘121 patent.

The claim language makes clear that a “corresponding” reduced size image is simply a lower resolution version of a full size image. Claim 7, for instance, identifies “one ... full size image[] at said first resolution and a corresponding reduced size version thereof at said second resolution.” (‘121 patent, 6:28-31, at A-18.) Claim 12 describes a reduced size image data set as “corresponding to one of the full size image data sets.” (*Id.*, 8:22-24, at A-19.) Similarly, claims 13 and 15 describe generating, from full size image data sets, “second

data sets representing a corresponding plurality of reduced size reproduction images at a second lower spatial resolution.” (*Id.*, 8:52-55, at A-19; *id.*, 10:14-17, at A-20.)

Consistent with this claim language, the specification only uses “corresponding” to identify a reduced size copy generated from a full size image. The specification states: “Hence, any time frame store 22 receives a video image frame that does not have a corresponding quarter resolution copy, the size reducer 26 may be used to make such a copy.” (*Id.*, 4:12-15, at A-17; *see also id.*, 4:7-12, at A-17.) “Corresponding,” as used in the ‘121 patent, therefore means simply that the reduced size image is one that relates to a full size image in that it is a smaller (lower resolution) version of the full size image.

b. Ampex’s Proposed Construction

In its first of several claim construction statements, Ampex did not single out the term “corresponding” for construction. (*See A. Constr.* (3/05), at A-309 to A-359.) In a subsequent statement, however, Ampex defined “corresponding” to require that the claimed still store system maintain a relationship between the full size image and the reduced size image “such that the transfer, storage or access of a full size image may be related to a prior such operation on the corresponding reduced size image.” (*A. Constr.* (7/05), at A-500.) Ampex now argues that “corresponding” means “[h]aving a working relationship” and that the claims, each taken as a whole, require “that a relationship be maintained between each full size image and the reduced size image generated from that full size image.” (*A. Constr.* (5/06), at 11-12.) Ampex also apparently argues now that this correspondence must be automatic. In practical terms, Ampex suggests that this “correspondence” would enable an operator to select one of several reduced size images in a “browse” in order to obtain the corresponding full size image. (*Cavallerano Dep.*, at A-608 to A-609.)

Ampex’s proposed construction is not supported by the intrinsic evidence. Nothing in the claim language or the specification suggests that a “working relationship” (whatever

that means) must be “maintained” between each full size image and its “corresponding” reduced size image. Rather, as explained above, the claims and the specification make clear that a “corresponding” reduced size image is simply a lower resolution image generated from a full size image. Moreover, nothing in the claims or specification describes *how* to implement such a “working relationship.” (Cavallerano Dep., at A-610 to A-612.)

Nor does the ‘121 patent even describe, as Ampex’s proposed construction suggests, a mode of operation in which a user would be able to select one of several reduced size images in order to retrieve a “corresponding” full size image. On the contrary, the specification describes two distinct modes of operation: In a first “broadcast” mode, a user may access an individual full size video image. (‘121 patent, 4:41-44, at A-17.) In a second “editing” or “browsing” mode, a user may access sixteen reduced size video images. (*Id.*, 4:45-57, at A-17.)

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Finally, Ampex has acknowledged that its construction of “corresponding” was motivated by its desire to avoid the prior art. (*See* Telephone Hrg. Tr. (3/14/06), at A-549 to A-550 (“So the fact that we [Ampex] modified our claim construction *in response to prior art* has nothing to do with Mr. Beaulier.” (emphasis added)); *see also id.* at A-551.)

12. “Respective Selected Groups of Storage Locations”

‘121 Term(s)	Claim(s)	Defendants’ Proposal	Ampex’s Proposal
“respective selected groups of storage locations”	13, 15	In two separate locations, i.e., one for full size images and one for reduced size images.	Storage locations, chosen by the system, for storage of full size and reduced size image data sets.

Claims 13 and 15 describe storing both the data sets of the plurality of full size images and the data sets of the corresponding plurality of reduced size images in “respective selected groups of storage locations.” The use of the term “respective” with the two different “pluralities” indicates that the storage location for the full size image data sets is separate from the storage location for the reduced size image data sets. Although Ampex did not propose a construction for this term in its March 24, 2006 claim construction statement (*see* A. Constr. (3/06), at A-552 to A-577), Ampex now appears to agree that “respective selected groups of storage locations” requires two separate storage locations (*see* A. Constr. (5/06), at 45). Ampex’s proposed construction, however, fails to give meaning to the word “respective,” which makes clear that one storage location must be for full size images and that another separate storage location must be for reduced size images.

13. “Responsive To”

‘121 Term(s)	Claim(s)	Defendants’ Proposal	Ampex’s Current Proposal
“responsive to said random access means”	7, 8, 12, 14	To be coupled to the random access memory so as to be able to receive data from the random access memory.	The claimed operations are performed automatically under processor control, without the operator orchestrating each step.

Claims 7, 8, 12, and 14 each use the phrase “responsive to.” Claims 7, 8, and 14 recite “means responsive to said random access memory means.” Claim 12 refers to “memory being responsive to either the external source or the image store” and “means responsive to said memory” for displaying the output image.

a. Defendants’ Proposed Construction

As used throughout the claims, “responsive to” means to be coupled to so as to be able to receive data from. In claims 7, 8, and 14, “responsive to said random access memory” means to be coupled to the random access memory, so as to be able to receive data from the random access memory. This construction is based on a plain reading of the claims themselves, which describe the “size reducing means” (or simply “means”) as receiving

image data from the random access memory, generating a reduced size image, and sending that reduced size image back to the random access memory. Consistent with the claim language, the specification states that “[s]ize reducer 26 is operable to receive video data from frame store 22 to convert the video data” to a reduced size copy. (‘121 patent, 4:2-5, at A-17.) A person of ordinary skill in the art would thus understand that a size reducer “responsive to” the random access memory simply means that the size reducer must be able to receive data from the random access memory. (Storer Decl., ¶¶ 87-89.)

Similarly, in claim 12, “responsive to” is used three times to describe couplings and data transfer between the “memory” and the “external source,” the “image store,” and the “means ... for displaying the output image.” Specifically, claim 12 uses “responsive to” to indicate that: (1) the memory is coupled to the external source, so as to be able to receive data from the external source; (2) the memory is coupled to the image store, so as to be able to receive data from the image store; and (3) the means for displaying the output image is coupled to the memory, so as to be able to receive data from the memory. Again, the specification is consistent with the plain meaning of the claim language. It describes an analog-to-digital converter “coupling” the video input to the frame store (memory) (‘121 patent, 2:20-22, at A-16); a frame store (memory) that receives an image or images from the image store (*id.*, 2:1-11, at A-16); and an output digital-to-analog converter “coupled” to convert the output video images from a digital form (from the memory) to an analog form for use by a monitor (*id.*, 2:22-25, at A-16).

b. Ampex’s Proposed Construction

Ampex contends that “responsive to” means that “the claimed operations are performed automatically under processor control, without the operator orchestrating each step.” (A. Constr. (5/06), at 29-30.) Ampex’s construction is at odds with both the claim language and the specification, and is based on a selective reading of the file history.

As applied to claims 7, 8, and 14, Ampex's construction would require the size reducer to automatically receive data from the random access memory and to automatically generate a reduced size image.⁸ The claim language, however, contradicts this. The claims never use the word "automatic" but, to the contrary, indicate that the size reducer need only be capable of receiving data from the random access memory. Claim 7 describes the "means responsive to [the] random access memory" as "selectively" generating a reduced size image. ('121 patent, 6:41-45, at A-18.) Because the word "selectively" indicates choice (as explained above), Ampex's proposed construction of "responsive to" as requiring operations to be performed "automatically" would make the claim hopelessly inconsistent.

Ampex's proposed construction likewise finds no support in the specification. Not only does the specification fail to suggest that operations of the video still store system are performed automatically without input from the user, it actually states the opposite. The specification explains: "A central processing unit is connected *to receive user commands* through a user console and to control the other devices of the system *in response thereto*." (*Id.*, 2:25-28, at A-16 (emphases added).) Notably, this statement is made in the context of describing the operations and couplings of the size reducer, the frame store (memory), the video input, and the video output display. (*Id.*, 2:17-25, at A-16.) Moreover, the specification explicitly states that the use of a size reducer is optional. (*Id.*, 4:9-12, at A-17 ("[S]ize reducer 26 *may* be employed to generate a quarter spatial resolution copy for subsequent transfer to either frame store 22 or disk store 24." (emphasis added)).)

Ampex's construction is also based on a selective – and incomplete – reading of the file history. Ampex apparently derives its "automatic" argument from its 1986 response to an examiner's rejection, in which Ampex argued that then-pending claims 12

⁸ For claim 12, Ampex's proposed construction would require the memory to automatically store the reduced size data at different selected locations *every time data is in the image store*.

and 14 (which never issued) were distinguishable over the prior art because they had been amended to require that the size reducer produce reduced size image data “‘in response’ to the writing of the full size image data set into the frame store.”⁹ (‘121 file history, at A-108 (emphasis added); *see also id.* at A-104 to A-105.) With this amendment, Ampex argued that pending claims 12 and 14 required *automatically* generating a reduced size image when a full size image was stored in memory. (*Id.* at A-108.)

What Ampex’s citation of the file history omits, however, is that the claims were subsequently amended to remove the very language that Ampex argued established the automatic nature of the claimed operations. In fact, pending claims 12 and 14 were rejected by the examiner (*id.* at A-111 to A-115) and then cancelled by Ampex (*id.* at A-121). Ampex subsequently abandoned its application altogether and filed a continuing application with *new claims*. (*Id.* at A-142 to A-164.) These new claims did not include the language “in response to” *the writing of the full size image data into the frame store*, but instead were amended to claim a size reducer that is simply “responsive to” *the random access memory*. (*Id.* at A-203.) In other words, Ampex changed the claim language so that the size reducer need not be responsive to an action (the writing of the full size image into the frame store), but need only be responsive to a component (the random access memory). Ampex *never again* argued during prosecution that the claims required automatic operations. Accordingly, a full reading of the file history shows that the claims as issued do not require the recited operations to be performed automatically.

⁹ The language of the amendment referred to the writing of full size image data into the *image store*. (‘121 file history, at A-104 to A-105.) Ampex argued to the examiner, however, that a reduced size image was generated in response to the writing of full size image data into the *frame store*. (*Id.* at A-108.)

C. Other Claim Construction Arguments

Ampex proposes that language not even found in the claims be construed. In so doing, Ampex manufactures a number of requirements based on the claims “taken as a whole” in an attempt to avoid the prior art. These requirements simply have no support in the claims, in the specification, or even in the file history on which Ampex relies.

1. Prior to

Ampex argues that claims 7-8, 10, and 14, “each taken as a whole,” require that data representing the reduced size image be generated automatically from the full size image *prior to* storage of the full size image in bulk storage. (A. Constr. (5/06), at 34.)¹⁰ But even Ampex’s own expert, Mr. Cavallerano, admitted that is not the case:

Q. So the ‘121 patent does not require the generation of reduced size images prior to the storage of the full size image on disk?

A. No, it does not.

(Cavallerano Dep., at A-621 (objection omitted).)

Indeed, the claims do not support Ampex’s proposed order of operations. The words “prior to” – or any language suggesting a particular sequence – do not appear in the claims. It is well settled that, without such language, the order in which the elements appear in the claims should not be read to require a particular order of operations. *See Interactive Gift Express, Inc. v. CompuServe Inc.*, 256 F.3d 1323, 1342 (Fed. Cir. 2001) (“Unless the steps of a method actually recite an order, the steps are not ordinarily construed to require one.”).

Ampex’s proposed order of operations is also in direct contradiction to the ‘121 specification, which states that “when video data received from disk store 24 does not contain a corresponding quarter spatial resolution copy, size reducer 26 may be employed to generate a quarter spatial resolution copy for subsequent transfer to either frame store 22 or disk store 24.” (‘121 patent, 4:7-12, at A-17.) This passage makes clear that there may be storage of a

¹⁰ Ampex appears to have dropped its contention that claims 11 and 12 contain a “prior to” requirement. (Compare A. Constr. (5/06), at 34-35, with A. Constr. (3/06), at A-569.)

full size image on disk *prior to* the generation of a reduced size image. In fact, Ampex's own expert confirmed that the "invention" covers the scenario in which full size images without corresponding reduced size images are stored on disk and only later transferred to the size reducer for the generation of reduced size images. (Cavallerano Dep., at A-620 to A-621.)

Finally, Ampex's proposed construction is inconsistent with the prosecution history. Ampex cites to an office action from 1984 in which the examiner stated that an "apparent novelty" of the claimed invention was that "size reduction ... is performed ... prior to storage in the image storage." ('121 file history, at A-56.)

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Again, however, Ampex's argument is based on only selected portions of the prosecution history. In fact, the claims were subsequently amended to specifically remove "prior to" from the issued claims.

The claims before the examiner when he made the "apparent novelty" remark were rejected because, among other reasons, they did not reflect the points of apparent novelty. ('121 file history, at A-53 to A-57.) Ampex subsequently submitted claims that it contended were in accord with the examiner's statement of apparent novelty, and one of these claims expressly included the term "prior to." (*Id.* at A-157 to A-158.) That claim, however, was also rejected. (*Id.* at A-166.) Ampex then submitted an amendment in which "prior to" was specifically removed from claim 7 (pending claim 18). The amendment read:

18. (amended) An apparatus for storing video pixel data ... comprising: ... means for selectively generating one of said corresponding reduced size versions [image] from the respective [any said] full size image in said random access memory means, [to be transferred to said memory means] and for transferring [storing] the video pixel data representing said reduced size image to [in said random access memory means **prior to** storage of] the contents of said memory means via said random access memory means [in said memory means].

(*Id.* at A-179 to A-180 (bold added, alterations in original, brackets show deletions and underlining shows additions).) Thus, the prosecution history, viewed in its entirety, demonstrates that the “prior to” language on which Ampex relies was *specifically removed* during prosecution and is *not* a requirement of the issued claims.

2. Interaction Between Size Reducer and Random Access Memory

Ampex contends that the third element of claim 7, the fourth and fifth elements of claim 8, and the first element of claim 10, taking each claim as a whole, require that the size reducer transfer video pixel data representing images to and receive such data from *only* the claimed random access memory. (A. Constr. (5/06), at 32.) Again, the intrinsic record does not support Ampex’s proposed construction.

As an initial matter, there is no dispute that “*only*” does not appear in the claims. The claims state that the size reducer must be capable of receiving data from, and transferring data to, the random access memory. The claims do not state that the size reducer may *only* receive data from the random access memory or *only* transfer data to the random access memory. The fact that the size reducer has the capability to receive from, and transfer to, the random access memory does not preclude the ability to receive from, or transfer to, another source in these open-ended claims. To the contrary, all of the asserted claims have a preamble that ends with “comprising,” indicating that other structures may be included.

Ampex’s construction is also contradicted by the specification and the file history. The specification explicitly states that the size reducer can transfer image data to either the frame store *or the disk store*. (‘121 patent, 4:9-12, at A-17 (“[S]ize reducer 26 may be employed to generate a quarter spatial resolution copy for subsequent transfer to either frame store 22 *or disk store* 24.” (emphasis added))). The sole figure of the patent also shows the size reducer coupled directly to both the frame store *and the disk store*, with an uninterrupted

line between the size reducer and the disk store. (*Id.*, figure, at A-15.) Ampex specifically amended the figure during prosecution to add this line. ('121 file history, at A-119, A-132.)

3. Storing Data for Full and Reduced Size Images in Random Access Memory Simultaneously

Ampex contends that claims 7, 8, 10-12, and 14, “[t]aking each claim as a whole, require that video pixel data ... representing each full size image and video pixel data ... representing its corresponding reduced size image must be stored in the random access memory ... simultaneously.” (A. Constr. (5/06), at 21.)

There is no support in the ‘121 patent for the contention that claims 7, 8, and 14 contain such a requirement. Claims 10 and 12 specifically describe storing full and reduced size images in the memory “simultaneously,” and claim 11 specifically describes storing the reduced size images in memory “along with” the full size image. Claims 7, 8, and 14, however, include no such requirement. Claim 7 simply requires “random access memory means for storing video pixel data representing one of a succession of full size images ... and a corresponding reduced size version thereof.” (‘121 patent, 6:27-30, at A-18.) There is no requirement that the storage be “at the same time.” The same is true for claims 8 and 14.

Ampex’s suggestion that claims 7, 8, and 14 also require simultaneous storage would render meaningless the terms “simultaneously” and “along with” in claims 10, 11 and 12. If the mere mention of storing full and reduced size images in random access memory required “simultaneous” storage, then the words “simultaneous” and “along with” would add nothing to claims 10, 11 and 12. *See Merck & Co., Inc., v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (“A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.”).

D. Means-Plus-Function Claims

A “means-plus-function” limitation is one that claims an element of a combination functionally, without reciting structure for performing that function. 35 U.S.C. § 112, ¶ 6.

To construe a means-plus-function limitation, a court must first identify the claimed function and then identify the structure in the specification that corresponds to the recited function.

See Cardiac Pacemakers, Inc. v. St. Jude Med., Inc., 296 F.3d 1106, 1113 (Fed. Cir. 2002).

A means-plus-function claim for which there is no corresponding structure disclosed in the specification is invalid for indefiniteness under 35 U.S.C. § 112, ¶ 2. *See Default Proof Credit Card Sys., Inc. v. Home Depot USA, Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005).

1. “Means Responsive to Said Random Access Memory Means”

Claim 7 recites a “means responsive to said random access memory means” and, as the parties agree, should be interpreted as a means-plus-function claim. The specification, however, fails to disclose *any* structure for performing the recited function of “selectively generating” a reduced size image. Instead, the figure of the patent simply shows a box labeled “size reducer” with no indication of what that box might contain. Even Ampex’s expert admitted that the ‘121 patent discloses no “size reducer” structure:

Q: So the ‘121 patent doesn’t disclose any particular structure of a size reducer, correct?

A: As I’ve stated, the size reducer, it’s a block, and that block gets up to the choice of the implementer to decide what the structure of the block is.

Q: Right. So the patent doesn’t tell one of ordinary skill in the art what structure to place in that block, correct?

A: That’s correct. And I wouldn’t expect it to.

(Cavallerano Dep., at A-618 to A-619 (objections omitted).) Because the ‘121 patent discloses no structure for “selectively generating” a reduced size image, claim 7 is invalid as indefinite under § 112, ¶ 2. *See Default Proof*, 412 F.3d at 1302-03.

2. “Size Reducing Means” and “Size Reducer Means”

Claims 8 and 14 recite a “size reducing means responsive to said random access memory means,” and claim 12 recites a “size reducer means.” Use of the word “means” creates a presumption that a claim is written in means-plus-function form. *Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.3d 1225, 1232 (Fed. Cir. 2001). Ampex cannot rebut this

presumption because the claims describe only a function (reducing image size), without describing any structure for performing that function. (Storer Decl., ¶¶ 95-98.) Accordingly, claims 8, 12, and 14 are means-plus-function claims. *See Wenger*, 239 F.3d at 1232 (a claim that recites a function without reciting structure for performing that function falls under § 112, ¶ 6). Because, as discussed above, the specification fails to disclose corresponding structure for the function of reducing image size, claims 8, 12, and 14 are invalid for indefiniteness. *See Default Proof*, 412 F.3d at 1302-03.

V. CONCLUSION

For the reasons set forth above, Defendants respectfully request that the Court enter an Order adopting the proposed constructions of the claim terms and phrases proffered by Defendants and declare invalid the claims that Defendants have shown are indefinite.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on May 31, 2006, I electronically filed the following document with the Clerk of the Court using CM/ECF which will send notification of such filing to the following:

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REDACTED OPENING CLAIM CONSTRUCTION BRIEF**

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